Position Statement: Human Factors and Ergonomics in Healthcare

Human Factors (also called Ergonomics, HF or HFE)

- Is the scientific discipline concerned with understanding the interactions between people and the other parts of the systems in which they work.
- Has dual goals of optimising the well-being of people and system performance.
- Applies scientific methods to design and evaluate tasks, jobs, processes, equipment and environments to make them more compatible with the needs, capabilities and limitations of people.
- Is crucial to understand not only why things go wrong, but also why things go right.

Benefits of a human factors and ergonomics approach

When applied effectively, a human factors and ergonomics approach can help to:

- Develop safe, resilient systems that are fit for purpose.
- Provide effective integration of human, technological and organisational capabilities.
- Design out the potential for people to make mistakes, helping them succeed in what they set out to do.
- Design work and workplaces that enable people to perform tasks in an optimal way with minimal need for training.
- Enable people to work in ways that maximise safety and reduce risk.
- Standardise terminology and encourage consistency in interactions (with people, places and equipment) to improve safety and performance.
- Optimise for human capabilities and mitigate physical, cognitive, psychological and social limitations.
- Identify multiple contributing factors in accidents or incidents so solutions are focussed on improving system design to optimise performance and well-being.
- Optimisation of system performance and staff wellbeing, resulting in reduced costs through fewer injuries and improved efficiency.

Our vision for HFE integration in healthcare

To build and embed HFE understanding and expertise into practice to promote overall system performance and enhanced staff, patient, consumer and whānau well-being.

Our goals for HFE integration

HFE integration across healthcare in Aotearoa New Zealand will be evident when:

- HFE good practice is common across all healthcare processes including audit, new and redesigned services, reviews, evaluations and procurement.
- HFE good practice informs all areas of healthcare across public and private organisations and across community, primary, and secondary sectors.
- Proven strategies and frameworks are consistently used in HFE implementation.

- International standards for HFE are embedded into healthcare design and systems for planning, procurement and safety.
- A strong culture of learning supports continuous improvement in human performance and well-being.
- HFE expertise and professionals are embedded in roles in healthcare.

HFE education pathway

An education pathway is essential for embedding human factors and ergonomics into practice within healthcare across Aotearoa New Zealand. A pathway provides a structured means to develop both HFE capability and capacity within the sector. The framework (Figure 1) for delivering HFE education has a clear progression from introductory learning through to advanced leadership-level expertise. This pathway can also lead to professional HFE certification. The courses corresponding to each level of the pathway are outlined in Table 1.

Table 1. HFE education and courses in pathway

	Scope	Delivery	Course
Level 1	Awareness and basic education	Online courses	E-learning module: Human Factors | Ngā Āhua Tangata | Health Quality & Safety Commission Te Tāhū Hauora
Level 2	Competence and experience	Combination of online and in-person short courses	Brilliant Basics modules and resources https://learn.nes.nhs.scot/81454
Level 3	Qualified expertise	Undergraduate online course	Human Factors and Ergonomics: Work, Performance, Health and Design - Massey University
Level 4	Senior Adviser	Postgraduate course hybrid model: online with in-person teaching block	Human factors and ergonomics - AUT
Level 5	Lead	Postgraduate course hybrid model: online with in-person teaching block	Human factors and ergonomics - AUT

References

Chartered Institute of Ergonomics and Human Factors (2018) *Human Factors for Health and Social Care,White Paper*